



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/781,234	02/13/2001	Tadashi Saito	089367/0113	7944
22428	7590	02/01/2005	EXAMINER	
FOLEY AND LARDNER SUITE 500 3000 K STREET NW WASHINGTON, DC 20007			GHULAMALI, QUTBUDDIN	
			ART UNIT	PAPER NUMBER
			2637	

DATE MAILED: 02/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/781,234

Applicant(s)

SAITO ET AL.

Examiner

Qutub Ghulamali

Art Unit

2637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 7 and 8 is/are rejected.
- 7) ☒ Claim(s) 3-6 and 9-12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Acknowledgment*

1. This Office Action is responsive to the Amendment filed on 10/04/2004.
2. Examiner hereby acknowledges applicant's amendments to claims 4 and 10 and drawing Fig. 7 filed on 10/04/2004.

### *Response to Arguments*

3. Applicant's arguments with respect to claims 1 and 7 have been considered but are moot in view of the new ground(s) of rejection.

The rejection is as follows:

### *Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oda (US Patent No. 6,628,698) in view of Popovic et al (US Patent 6,370,397, new art).

Regarding claims 1 and 7, Oda discloses a CDMA communications system comprising; a plurality of despreading circuits 38 (fingers) for despreading received signals having multi-path components at predetermined timing allocated thereto (abstract: col. 5, lines 58-67); a rake circuit (fig. 6, element 39) for performing rake combining of the signals despread by despreading circuit (col. 3, lines 24-37). Even though Oda discloses the use of a single window (single path search range) to calculate the delay profile data of received signals, Oda is silent regarding forming a first window, forms at least one second window in the search range except said first window and calculates delay profile data of said received signals in said second window, and detects timing at which said received signals are despread based on calculated profile data to allocate the detected timing to said despreading circuits.

Popovic in a similar field of endeavor, discloses a search window delay tracking CDMA system wherein the path searcher (fig. 6, element 60) forms a first window showing a part of the search range and calculates delay profile data of said received signals in said first window to search an effective path (col. 5, lines 35-49; col. 6, lines 29-39), forms at least one second window in the search range except said first window and calculates delay profile data of said received signals in said second window, and detects timing at which said received signals are despread based on calculated profile data to allocate the detected timing to said despreading circuits (col. 7, lines 10-20, 40-60; col. 8, lines 26-34). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to use the two windows in the system of Oda as taught by Popovic because by doing so the delays can be compensated from multipath components for an improved quality and reliability in received signals.

Art Unit: 2637

6. Claims 2 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oda (US Patent No. 6,628,698) in view of Popovic et al (US Patent 6,370,397 as applied to claim 1 and 7 above, and further in view of Watanabe (US Patent 6,044,104).

Regarding claims 2 and 8, Oda and Popovic disclose all limitations of claims 2 and 8, except the path searcher forms a plurality of second windows by dividing the search range to calculate delay profile data in respective second windows in accordance with a predetermined order. However, in the same field of endeavor, Watanabe discloses a cell search apparatus (figs. 1, 5) wherein path searcher forms a plurality of second windows by dividing the search range to calculate delay profile data in respective second windows in accordance with a predetermined order (col. 3, lines 39-67; col. 4, lines 8-17). It would have been obvious to one skilled in the art at the time the invention was made to use the division of windows into a number of search windows (search widths) in the system of Oda and Popovic as taught by Watanabe because it can allow multiple search phases with varying thresholds to provide a highly reliable searcher.

#### ***Allowable Subject Matter***

7. Claims 3-6, 9-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claims and any intervening claims.

#### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patents:

Art Unit: 2637

Hutchison, IV et al (US Patent 5,790,589), showing system and method to determine expected PN sequence.

Murai (US Patent 6,154,487), discloses a spread spectrum signal receiving method and apparatus to obtain correlation between signals received.

Higuchi et al (US Patent 6,167,037), shows signal transmission and reception in a mobile communication system.

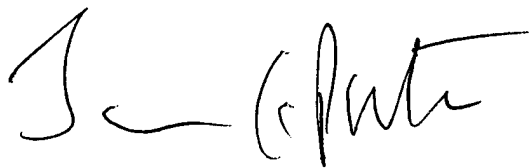
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Qutub Ghulamali whose telephone number is (571) 272-3014. The examiner can normally be reached on Monday-Friday from 8:00AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Qh  
QG

January 25, 2005.



JAY K. PATEL  
SUPERVISORY PATENT EXAMINER